

part 3

PART C

Summary of the Testimony of David J. Dalton

1 My testimony addresses Virginia Electric and Power Company's ("Dominion" or
2 "Company") application for an update to its rate adjustment clause, designated Rider S. My
3 testimony includes the following findings and recommendations:

- 4 - The Company is proposing to transition Rider S to biennial update filings,
5 meaning the Company would not file another Rider S application until
6 2023. Staff is unopposed to this proposed modification.
- 7 - The Company's unit retirement analysis from its 2020 IRP indicates that it
8 is not economic to continue the operation of VCHEC. The Company
9 anticipates continuing investments in capital improvements to continue the
10 operation of VCHEC through 2045.
- 11 - Given the regulatory climate at both the state and federal levels regarding
12 greenhouse gas emissions, including carbon dioxide, and environmental
13 regulations such as RGGI, Staff believes that it may not be advisable to
14 continue capital investment in a unit that the Company's analysis shows to
15 be uneconomic to continue operating.
- 16 - To address this concern, Staff recommends that the Commission direct the
17 Company to analyze and report to the Commission a possible pathway
18 towards economic viability for the Project on a going-forward basis. Staff
19 recommends that this report include analyses of scenarios in which VCHEC
20 retires prior to the statutorily required date of 2045, including, at a
21 minimum, years 2026 and 2030. Staff further recommends that this report
22 also include a plan or plans to repurpose the Project site to address economic
23 impacts and electric system reliability impacts of retiring the unit.
24 Additionally, Staff recommends that this report include analyses of the
25 impact of the unit's retirement on environmental justice and the social cost
26 of carbon. Lastly, Staff recommends that this report include analysis of any
27 economic impacts (including any positive impacts that may mitigate the
28 negative impacts) of potential unit retirement.
- 29 - The Company's methodology for cost allocation and rate design are,
30 generally, the same as those previously approved by the Commission in
31 Case No. PUR-2020-00102. Staff is not opposed to the Company's
32 proposed rate design methodology. The bill impact of the proposed Rider
33 S surcharges for Rate Year 1 for a typical residential customer utilizing
34 1,000 kWh per month is an increase of \$0.09 per month, for a total Rider S
35 charge of \$3.70 per month; the bill impact for Rate Year 2 for the same
36 customer is an increase of \$0.02, or a total Rider S charge of \$3.72, per
37 month compared to Rate Year 1 rates.

**PRE-FILED TESTIMONY
OF
DAVID J. DALTON**

**APPLICATION OF
VIRGINIA ELECTRIC AND POWER COMPANY
FOR REVISION OF RATE ADJUSTMENT CLAUSE:
RIDER S, VIRGINIA CITY HYBRID ENERGY CENTER**

CASE NO. PUR-2021-00114

1 **Q. PLEASE STATE YOUR NAME AND POSITION WITH THE STATE**
2 **CORPORATION COMMISSION ("COMMISSION")**

3 **A. My name is David J. Dalton and I am a Principal Utilities Analyst with the Commission's**
4 **Division of Public Utility Regulation.**

5 **Q. WHAT ARE YOUR PRESENT RESPONSIBILITIES?**

6 **A. My duties as a Principal Utilities Analyst include reviewing and analyzing public utility**
7 **rate and certificate applications regarding cost of service, rate design, and terms and**
8 **conditions of service. I am also responsible for presenting testimony as a Staff witness and**
9 **making alternate proposals to the Commission when appropriate.**

10 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?**

11 **A. My testimony addresses Virginia Electric and Power Company's ("Dominion" or**
12 **"Company") application for an update to its rate adjustment clause ("RAC"), Rider S**
13 **("Application"), pursuant to § 56-585.1 A 6 of the Code of Virginia. In its Application,**
14 **the Company seeks to recover costs associated with the Virginia City Hybrid Energy**
15 **Center ("VCHEC" or "Project"), an approximately 600 megawatt ("MW") (nominal) coal-**

1 fueled generation plant and associated transmission interconnection facilities in Wise
2 County, Virginia.¹ Specifically, my testimony addresses the following issues:

- 3 - The economic feasibility and implications of the Company's
4 continued operation of the Project;
- 5 - The Company's soon-to-be-completed additional coal
6 combustion residual ("CCR") landfill at VCHEC;
- 7 - The Company's proposed modification to the frequency of
8 update filings for RACs associated with VCHEC going forward;
9 and
- 10 - The Company's proposed revenue apportionment and rate
11 design methodology for Rider S.

12 **Q. PLEASE PROVIDE A BRIEF SUMMARY OF THE COMPANY'S APPLICATION.**

13 **A.** On June 8, 2021, Dominion filed its Application to update Rider S. The Company is
14 seeking approval of Rider S for two consecutive rate years. The first proposed rate year
15 would encompass the period from April 1, 2022, through March 31, 2023 ("Rate Year 1"),
16 and the second rate year would encompass the period from April 1, 2023, through March
17 31, 2024 ("Rate Year 2") (collectively, "Rate Years").² The Company requests a revenue
18 requirement of approximately \$191,532,000 for Rate Year 1 and approximately
19 \$191,292,000 for Rate Year 2,³ for a total revenue requirement for both Rate Years of
20 approximately \$382,824,000. The Company's proposal to modify the filing schedule to
21 biennial filings will be discussed in more detail later in this testimony.

¹ Application at 1.

² *Id.* at 5.

³ *Id.* at 7.

1 On June 28, 2021, the Commission issued an Order for Notice and Hearing
2 ("Order") in this proceeding. In its Order, the Commission scheduled a public hearing for
3 the purpose of receiving evidence relevant to the Company's Application. Additionally,
4 the Commission's Order directed the Commission Staff ("Staff") to file testimony and
5 exhibits that it intends to present at the evidentiary hearing.

6 **Q. PLEASE PROVIDE A BRIEF DISCUSSION OF THE PROJECT.**

7 **A.** In Case No. PUE-2007-00066,⁴ the Commission approved the development of VCHEC.
8 The Project became fully operational on July 10, 2012, with biomass commissioning being
9 completed in 2013.⁵ In conjunction with its approval of VCHEC, the Commission also
10 approved a RAC, designated Rider S, which allows the Company to recover its costs
11 associated with the development of the Project, including projected construction work in
12 progress and any associated allowances for funds used during construction.⁶

Economic Viability of VCHEC

13 **Q. WERE ISSUES REGARDING THE ECONOMICS OF VCHEC RAISED IN THE**
14 **COMPANY'S 2020 IRP PROCEEDING?**

⁴ *Application of Virginia Electric and Power Company, For a certificate of public convenience and necessity to construct and operate an electrical generation facility in Wise County, Virginia, and for approval of a rate adjustment clause under §§ 56-585.1, 56-580 D, and 56-46.1 of the Code of Virginia, Case No. PUE-2007-00066, 2008 S.C.C. Ann. Rept. 385, Final Order (Mar. 31, 2008).*

⁵ Application at 5.

⁶ *Id.* at 3.

1 A. Yes. In its 2020 Integrated Resource Plan ("IRP") proceeding,⁷ the Company presented a
 2 unit analysis of VCHEC. The modeling showed that operating VCHEC through 2029
 3 would impose a net cost of approximately \$472 million on ratepayers.⁸ This means that
 4 VCHEC is expected to be operating significantly in the red going forward, which was a
 5 subject of considerable testimony during the 2020 IRP proceeding.

6 Additionally, this modeling result was based upon the assumption that the unit will
 7 generate when it is economic to do so in the PJM Interconnection, LLC ("PJM"), markets.⁹

8 In other words, the Company assumed, for modeling purposes, that the dispatch costs for
 9 VCHEC would be lower than the PJM energy price. In addition to economic dispatch, it
 10 is also possible for a unit to be self-dispatched regardless of economic signal.¹⁰ When a
 11 unit is dispatched on a "self-scheduled" or "must-run" basis, rather than on an economic
 12 basis, the dispatch costs for the unit can be assumed to be higher than the PJM energy price.

13 The Company's response to Staff Interrogatory No. 6-45, Confidential Attachment Staff
 14 Set 06-45 (WAH) indicates that, from January 1, 2021, through August 26, 2021, [BEGIN

15 **CONFIDENTIAL]** [REDACTED]

16 [REDACTED] [END

⁷ *Commonwealth of Virginia, ex rel., State Corporation Commission, In re: Virginia Electric and Power Company's Integrated Resource Plan filing pursuant to Va. Code § 56-597 et seq.*, Case No. PUR-2020-00035, Doc. Con. Cen. No. 200510030 (May 1, 2020) ("2020 IRP").

⁸ See 2020 IRP. Pre-Filed Testimony of David J. Dalton, Doc. Con. Cen. No. 200930132 (Sep. 29, 2020), Attachment No. DJD-1 at 11-13. For convenience, these pages are attached hereto as Attachment No. DJD-2.

⁹ See the Company's response to Staff Interrogatory No. 4-37, attached hereto as part of Attachment No. DJD-1.

¹⁰ See the Company's response to Sierra Club Interrogatory No. 2-6. PJM defines "self-scheduled resource" as, "A generating resource that is turned on by the operating company and committed into the energy market by the operating company. Self-scheduled resources are also known as 'running for company.'" Staff notes that PJM defines "must-run generation" as, "Generation designated to operate at a specific level and not available for economical dispatch. Also referred to as fixed generation."

1 **CONFIDENTIAL]** VCHEC has dispatched as a "self-scheduled Must-Run"¹¹ resource
 2 approximately **[BEGIN CONFIDENTIAL]** [REDACTED]
 3 **[END CONFIDENTIAL]**¹² Given this, the Company's 2020 IRP unit analysis likely
 4 understates the economic loss of continued operation of the Project.

5 **Q. DID THE COMPANY'S 2021 INFORMATIONAL IRP UPDATE PROVIDE ANY**
 6 **ADDITIONAL INFORMATION RELATIVE TO THE CONTINUED**
 7 **OPERATION OF VCHEC?**

8 **A. Yes.** In the Company's 2021 IRP Update, filed in Case No. PUR-2021-00201,¹³ the
 9 Company's least-cost Plan A¹⁴ shows VCHEC retiring in 2023.¹⁵ In other words, the
 10 Company's PLEXOS model retires the unit on a least-cost optimization basis in 2023. It

¹¹ See the Company's response to Staff Interrogatory No. 6-45, attached hereto as part of Attachment No. DJD-1, and Confidential Attachment Staff Set 06-45 (WAH). Due to its voluminous nature and formatting, Attachment Staff Set 06-45 (WAH) is not attached to this testimony. Staff has maintained an electronic copy of this attachment and will provide it upon request.

¹² Staff understands the Company's designation of VCHEC as a "self-scheduled Must-Run" resource in the referenced attachment to be synonymous with the term "self-scheduled resource" as previously defined. See the Company's response to Staff Interrogatory No. 6-45 and Attachment Staff Set 06-45 (WAH). Staff notes that the referenced attachment shows **[BEGIN CONFIDENTIAL]** [REDACTED] **[END CONFIDENTIAL]** Staff also notes that the attachment **[BEGIN CONFIDENTIAL]** [REDACTED] **[END CONFIDENTIAL]** The Company's response to Staff Interrogatory 7-53 is attached hereto as Part of Attachment No. DJD-3.

¹³ *Commonwealth of Virginia, ex rel., State Corporation Commission, In re: Virginia Electric and Power Company's 2021 Update to its Integrated Resource Plan pursuant to Va. Code § 56-597 et seq.*, Case No. PUR-2021-00201. Doc. Con. Cen. No. 210910060 (Sep. 1, 2021) ("2021 IRP Update").

¹⁴ The 2021 IRP Update identifies Plan A as the least-cost generation expansion plan to meet applicable carbon regulations and the mandatory Renewable Portfolio Standard Program requirements of the Virginia Clean Economy Act. 2021 IRP Update at 14. For convenience, this page is attached hereto as part of Attachment No. DJD-2.

¹⁵ 2021 IRP Update at 15, Figure 2.2.1: Alternative Plan A (nameplate MW). This page is attached hereto as part of Attachment No. DJD-2.

1 is not surprising, then, that the Company's ten-year cash flow analysis presented in the 2021
2 IRP Update also shows that, under the modeling assumptions used in Plan A, VCHEC
3 would have a net present value cost of \$357 million.¹⁶ The Company's ten-year cash flow
4 analysis also shows that, under the modeling assumptions used in Plan B, which continues
5 the operation of VCHEC, the Project will have a net present value cost of approximately
6 \$381 million.¹⁷ This further indicates that VCHEC is not currently operating on an
7 economic basis.

8 **Q. DOES THE COMPANY ANTICIPATE A NEED TO INVEST IN CAPITAL**
9 **IMPROVEMENTS AT VCHEC?**

10 **A.** Yes. The Company's response to Staff Interrogatory No. 4-40 and Confidential Attachment
11 4-40 (TAH) show that the Company currently anticipates the need to invest approximately
12 [BEGIN CONFIDENTIAL] [REDACTED] [END CONFIDENTIAL] in capital
13 improvements to continue operating VCHEC through 2045.

14 **Q. DOES STAFF HAVE ANY COMMENT ON THE EVOLVING ECONOMICS OF**
15 **THE PROJECT?**

16 **A.** Given the regulatory climate at both the state and federal levels regarding greenhouse gas
17 emissions, including carbon dioxide, and environmental regulations such as the Regional

¹⁶ *Id.*, at 38, Figure 5.1.1: Ten-year Cash Flow Analysis Results (NPV \$ Million). This page is attached hereto as part of Attachment No. DJD-2. It is unclear to Staff whether the 2021 IRP Update's modeling and ten-year cash-flow analysis assumed the economic dispatch of VCHEC; however, to the extent the 2021 IRP Update utilized such assumptions, it is likely that this analysis understates the economic loss of continued operation of the unit.

¹⁷ *Id.*

1 Greenhouse Gas Initiative,¹⁸ it is difficult for Staff to envision a future in which the
2 economic case for a coal unit would substantially improve. Given this, Staff believes that
3 it may not be advisable to continue making new capital investments in a unit that the
4 Company's analysis shows to be uneconomic to continue operating. Staff believes that,
5 should the Company continue investing in and operating the Project, the Company may be
6 at risk of having the prudence of such continued operation challenged in a future
7 proceeding. Staff witness Gerner addresses the potential future cost recovery implications
8 of Staff's prudence concerns.

9 **Q. DOES STAFF HAVE ANY ADDITIONAL CONCERNS RELATED TO THE**
10 **ECONOMICS OF VCHEC?**

11 **A.** Yes. As part of its Application, the Company is seeking cost recovery related to cells 2A
12 and 3B CCR containment facilities located at VCHEC, which are expected to be completed
13 in the fourth quarter of 2021 and may be operational by the time this testimony is filed.¹⁹

14 Given the lower projected capacity factors for VCHEC, and the corresponding
15 reductions in volumes of CCR material created, Staff is concerned about the need for the
16 construction of any additional CCR containment facilities at VCHEC, beyond cells 2A and
17 3B.

18 Based on the Company's responses to Staff Interrogatory Nos. 2-19 and 2-25,
19 attached hereto as part of Attachment No. DJD-1, the Company has sufficient storage

¹⁸ Also known as "RGGI."

¹⁹ See the Company's response to Staff Interrogatory No. 2-20, attached hereto as part of Attachment No. DJD-1.

capacity (even without the additions of cells 2A and 3B) for the remediation of CCR material produced by operating the Project through 2031.²⁰ As originally identified in Case No. PUR-2021-00045,²¹ the Company is nearing completion of cells 2A and 3B, which together have a total capacity of 14,218,100 cubic yards.²² Based on expected future unit dispatch, additional storage capacity will not be necessary for VCHEC-created CCR material until 2032. Further, for the period 2032 through 2035, VCHEC is only expected to receive approximately 181,116 cubic yards of additional CCR material.²³ This would leave approximately 14,036,984 cubic yards of unused storage capacity available in the VCHEC CCR containment facilities after 2035.

Q. GIVEN THAT ADDITIONAL CCR STORAGE CAPACITY IS NOT CURRENTLY NEEDED, IS STAFF RECOMMENDING THAT THE COSTS OF CELLS 2A AND 3B CCR CONTAINMENT FACILITIES IN THIS CASE BE DISALLOWED?

A. No. The Company's response to Staff Interrogatory No. 2-22 states that the contract to construct Cells 2A and 3B of the CCR containment facilities was executed on May 1, 2013.²⁴ Staff believes that, with the information available to the Company at that time, it

²⁰ For a full calculation of existing CCR containment capacities and anticipated CCR material production by VCHEC, please see Appendix A to this testimony.

²¹ *Petition of Virginia Electric and Power Company, For approval of a rate adjustment clause, designated Rider CCR, for the recovery of costs incurred to comply with § 10.1-1402.03 of the Code of Virginia, pursuant to Virginia Code § 56-585.1 A 5 e*, Case No. PUR-2021-00045 ("Rider CCR"), Pre-Filed Direct Testimony of Staff witness Katya Kuleshova, Doc. Con. Cen. No. 210640097 (Jun. 22, 2021), at 25-28 ("Rider CCR Kuleshova Direct"). The referenced pages of Staff witness Kuleshova's testimony are attached hereto as part of Attachment No. DJD-2.

²² See the Company's response to Staff Interrogatory No. 2-20, attached hereto as part of Attachment No. DJD-1.

²³ See Appendix A.

²⁴ See the Company's response to Staff Interrogatory No. 2-22, attached hereto as part of Attachment No. DJD-1.

1 may not have been unreasonable for the Company to plan for larger quantities of CCR
2 materials produced by the operation of VCHEC. As such, Staff is not challenging the
3 prudence of these costs.

4 Based on the present information available, however, Staff does not believe that the
5 construction of any new or additional CCR containment capacity at VCHEC is warranted.
6 Should the Company, in the future, begin construction on any additional containment
7 facilities, Staff notes the costs of those additional facilities may not be reasonable and
8 prudent unless current circumstances change.

9 **Q. DOES STAFF HAVE ANY RECOMMENDATIONS RELATED TO THE**
10 **ECONOMICS OF VCHEC?**

11 **A.** Yes. Given the Company's analyses showing that VCHEC is not currently economical,
12 Staff recommends that the Commission direct the Company to forego additional capital
13 investments in the unit beyond those requested in the instant case until the Company has
14 completed an analysis and filed a report with the Commission showing a pathway for the
15 unit to become economically viable on a going-forward basis. Staff recommends that this
16 report be filed with the Commission within nine months of the issuance of a final order in
17 the instant case.²⁵ In addition, Staff recommends that this report analyze several scenarios
18 in which VCHEC retires prior to 2045, the latest date required by Code § 56-585.5 B 3.

²⁵ Staff notes that the Company is proposing to update the filing schedule for Rider S to a biennial basis, which will be discussed more fully later in this testimony. Although Staff is unopposed to this proposed modification, Staff believes that the recommended report should be filed prior to the Company's next Rider S filing.

Staff recommends that the Company analyze at least the following years for retirement of the Project along with any other years that the Company may find appropriate:

- 2026, [BEGIN CONFIDENTIAL] [REDACTED]
[REDACTED]
[REDACTED]²⁶ [END CONFIDENTIAL]; and
- 2030, assuming the Company would not incur any additional capital costs to allow it to operate to or beyond this date.

Q. IS ECONOMIC FEASIBILITY THE ONLY FACTOR THAT SHOULD BE CONSIDERED IN THE COMPANY'S RETIREMENT ANALYSES TO BE INCLUDED IN THE REPORT?

A. Assuming the unit can become economically viable, the analysis Staff recommends that the Commission require the Company to file as part of the report would not necessarily need to include additional analysis beyond showing economic feasibility. If VCHEC remains uneconomical in the Company's analysis, Staff will continue to recommend that no additional capital investments be made in the unit and the Company should consider whether the unit should be retired.

Staff acknowledges, however, that there may be reasons to consider additional factors beyond economic viability before the Company arrives at any final decision on the appropriate timing of the retirement of the unit.²⁷ Retiring any unit, particularly a coal unit,

²⁶ See Company's response to Staff Interrogatory No. 4-40 and Confidential Attachment Staff Set 4-40 (TAH). The Company's response to Staff Interrogatory No. 4-40 is attached hereto as part of Attachment No. DJD-1. Due to its voluminous nature and formatting, Confidential Attachment Staff Set 4-40 is not attached to this testimony. Staff has maintained an electronic copy of the attachment and will provide it upon request.

²⁷ Though Staff is recommending that factors beyond economic viability should be addressed as part of the report, Staff takes no position in this case on whether, or to what extent, it might consider such factors in any recommendation it makes in a future proceeding.

1 is not a decision that should be taken lightly or made in haste. This is especially true for
2 VCHEC, which is located in an economically disadvantaged area, where plant closure
3 would likely result in significant negative local and regional economic impacts.

4 Staff believes that considerations of: (i) local economic impacts, (ii) system
5 reliability, (iii) environmental justice, and (iv) social cost of carbon should be included in
6 the recommend report as part of any plan to retire the unit.

7 **Q. SHOULD THE COMPANY ALSO CONSIDER WAYS TO REPURPOSE THE**
8 **VCHEC SITE IN THE REPORT?**

9 **A.** Yes. Staff recommends that the Company's report also include a plan on how the
10 brownfield VCHEC site can be repurposed if the unit is retired. For example, the Company
11 should investigate the viability of the VCHEC site for hosting solar, wind, and/or energy
12 storage resources. The site already has injection rights into and is already interconnected
13 to the electric grid. As such, deployment of an energy storage project, for example, may
14 be able to be executed relatively quickly and could help address any potential electric
15 power system reliability issues created by the retirement of the generating unit.
16 Additionally, the VCEA requires the Company to petition the Commission for 2,700 MW
17 of energy storage resources by 2035. Re-purposing the Project site for energy storage could
18 be a significant opportunity to address multiple goals of the VCEA – retiring a carbon-
19 emitting generation resource and adding energy storage resources.

20 **Q. ARE THERE ANY OTHER SUBJECTS THAT SHOULD BE INCLUDED IN**
21 **STAFF'S RECOMMENDED REPORT?**

1 **A.** Yes. Staff notes that the Company is currently conducting a Class 3 Study of Staff's Rail
 2 Option as directed by the Commission in its Order Approving Rate Adjustment Clause in
 3 Case No. PUR-2021-00045.²⁸ Staff's Rail Option in that case is to transport by rail the
 4 legacy CCR material from the Bremo and Possum Point generating facilities to the Curley
 5 Hollow landfill at VCHEC. Staff believes that this may offer an additional opportunity to
 6 soften the economic impact to Wise County in the event that VCHEC is retired. As such,
 7 pathways towards greater utilization of the unused CCR storage capacity at VCHEC should
 8 be a component of Staff's recommended study in the instant case.²⁹

9 Staff further notes that, in addition to addressing electric system reliability and
 10 addressing one or more aspects of the VCEA, investments in solar, wind, and/or energy
 11 storage resources to replace the Project would create jobs and offset at least some of the
 12 tax base lost to Wise County, partially offsetting the loss of the coal unit. Lastly,
 13 investment in solar, wind, and/or energy storage to replace the coal unit would likely have
 14 a positive impact on environmental justice to the surrounding areas and would create social
 15 cost of carbon benefits.

Proposed Modification to Frequency of Filing

16 **Q. IS THE COMPANY PROPOSING MODIFICATION TO THE FREQUENCY OF**
 17 **THE FILING OF UPDATES TO RIDER S?**

²⁸ Rider CCR, Doc. Con. Cen. No. 211040083, Order Approving Rate Adjustment Clause (Oct. 26, 2021), at 8.

²⁹ In addition to Staff's Rail Option currently being studied by the Company, the Curley Hollow landfill could also be used to remediate legacy CCR material from other utilities' coal units. For example, Appalachian Power Company has a similar requirement to remediate its legacy CCR material at its Clinch River plant, which Staff notes is approximately 20 miles from VCHEC.

1 A. Yes. Currently, the Company files annual updates to Rider S. In its Application, the
2 Company proposes updating Rider S on a biennial basis with two consecutive rate years.³⁰
3 Company witness Lee states that this proposal is an effort to reduce the administrative
4 burden of annual rider filings.³¹ If approved, the next biennial update for Rider S will be
5 filed in 2023.³²

6 **Q. WHAT EFFECTS WOULD A BIENNIAL FILING HAVE ON RIDER S?**

7 A. The instant case includes revenue requirements for two consecutive rate years, as would
8 future Rider S filings, if the biennial approach is approved. The details of how this affects
9 the Rider S rate calculation will be discussed later in this testimony.

10 **Q. DOES STAFF OPPOSE THE COMPANY'S PROPOSAL TO UPDATE RIDER S**
11 **ON A BIENNIAL BASIS GOING FORWARD?**

12 A. No, Staff does not oppose the Company's proposal to update Rider S on a biennial basis
13 going forward. However, as previously mentioned, Staff believes that its recommended
14 report should be filed prior to the Company's next Rider S filing, should the Commission
15 approve the proposed biennial update.

Calculation of Rider S

16 **Q. PLEASE BRIEFLY DISCUSS THE RIDER S RAC.**

³⁰ Application at 7.

³¹ Direct Testimony of Company witness Christopher J. Lee ("Lee Direct"), at 3.

³² *Id.*

1 A. As previously mentioned, the Company is proposing two rates for the recovery of costs
2 associated with the continued operation of VCHEC in the instant case, one for Rate Year
3 1 and one for Rate Year 2. The calculation of both Rate Year 1 and Rate Year 2 rates are
4 shown in Company witness Davis' Schedule 2.³³

5 **Q. PLEASE DISCUSS THE CALCULATION OF THE RIDER S SURCHARGES**
6 **PROPOSED FOR RATE YEAR 1.**

7 A. The Company's proposed Rider S charges are based on the same general methodology
8 approved by the Commission in the most recent Rider S proceeding, Case No.
9 PUR-2020-00102,³⁴ with the exception of the inclusion of the proposed adjustment to the
10 2019 true-up, discussed in more detail below. The proposed Rider S rate for Rate Year 1
11 is displayed in Schedule 2 of the Direct Testimony of Company witness Davis ("Davis
12 Direct").

13 **Q. PLEASE DISCUSS THE COMPONENTS OF THE RIDER S SURCHARGES AS**
14 **PROPOSED FOR RATE YEAR 1.**

15 A. There are three components to the proposed Rider S surcharges for Rate Year 1. Dominion
16 proposes: 1) an adjustment to the 2019 Actual Cost True-Up Factor, 2) the 2020 Actual
17 Cost True-Up Factor, and 3) the Projected Cost Recovery Factor.

³³ Davis Direct at 2-3.

³⁴ *Application of Virginia Electric and Power Company, For revision of rate adjustment clause: Rider S, Virginia City Hybrid Center*, Case No. PUR-2020-00102, Doc. Con. Cen. No. 210230092 (Feb. 24, 2021) ("2020 Rider S").

1 **Q. PLEASE DESCRIBE THESE COMPONENTS.**

2 **A.** The adjustment to the 2019 Actual Cost True-Up Factor is described in Company witness
 3 Lee's testimony.³⁵ This adjustment is related to updated revenue calculations and load
 4 volumes for 2019 described in the Company's May 18, 2021 Triennial Review
 5 Supplemental Filing in Case No. PUR-2021-00058.³⁶ This adjustment to the 2019 Actual
 6 Cost True-Up Factor results in an under-collection of \$2,434,000. When combined with
 7 the 2020 Actual Cost True-Up Factor, designed to refund an over-recovery of \$4,028,000,
 8 the net result is a negative Actual Cost True-Up Factor revenue requirement of
 9 (\$1,593,000).³⁷

10 The Company proposes a Projected Cost Recovery Factor revenue requirement for
 11 Rate Year 1 of \$193,125,000.³⁸ Combined with the Actual Cost True-Up Factor revenue
 12 requirement, the Total Revenue Requirement for Rate Year 1 is \$191,532,000.³⁹

13 **Q. PLEASE DISCUSS THE ALLOCATION FACTORS THE COMPANY PROPOSES**
 14 **TO USE TO ALLOCATE THE TOTAL REVENUE REQUIREMENT FOR RATE**
 15 **YEAR 1 TO THE VIRGINIA JURISDICTIONAL RATE CLASS.**

³⁵ Lee Direct at 3 and 8-9.

³⁶ *Amended Application and Supplemental Direct Testimony, Exhibits, and Schedules of Virginia Electric and Power Company, For a 2021 triennial review of the rates, terms and conditions for the provision of generation, distribution and transmission services pursuant to § 56-585.1 A of the Code of Virginia*, Case No. PUR-2021-00058, Doc. Con. Cen. No. 210540040 (May 18, 2021). Staff notes that this proceeding is pending before the Commission at the time of this writing.

³⁷ Lee Direct at 9.

³⁸ Application at 7.

³⁹ *Id.* at 8.

1 A. The calculation of the allocation factors for Rate Year 1 are discussed on pages 2 through
 2 5 of Company witness Davis' Direct testimony and are shown in her Schedule 4. As noted
 3 previously, there are three allocation factors calculated for Rate Year 1: an allocation factor
 4 related to the adjustment of the 2019 Actual Cost True-Up Factor, an allocation factor
 5 related to the 2020 Actual Cost True-Up Factor, and an allocation factor related to the
 6 Proposed Rate Year 1 Projected Cost Recovery Factor.

7 Q. PLEASE DESCRIBE THE ALLOCATION FACTORS THE COMPANY USED TO
 8 ALLOCATE THE VIRGINIA JURISDICTIONAL REVENUE REQUIREMENT
 9 FOR PROPOSED RATE YEAR 1.

10 A. The allocation factor applied to the adjustment to the 2019 Actual Cost True-Up Factor
 11 was calculated as an average of Baseline Factor 1 and the Adjusted Factor 1 for 2019,
 12 which Company witness Davis refers to as Average Factor 1 for 2019.⁴⁰

13 The allocation factor applied to the 2020 Actual Cost True-Up Factor was
 14 calculated as an average of Baseline Factor 1 and the Adjusted Factor 1 for 2020, which
 15 Company witness Davis refers to as Average Factor 1 for 2020.⁴¹

16 The Company's proposed allocation factor applied to the Projected Cost Recovery
 17 Factor for Rate Year 1 is Baseline Factor 1 for 2020.⁴²

⁴⁰ Davis Direct at 3. Staff notes that Dominion filed corrections to the 2019 and 2020 revenues and load volumes in Dominion's recent triennial review proceeding, Case No. PUR-2021-00058. These adjustments affected the allocation factor used to allocate costs to Virginia jurisdictional customers for those years. Adjusting for these effects resulted in the calculation of Average Factors 1 for the true-ups related to 2019 and 2020.

⁴¹ *Id.*, at 3-4.

⁴² *Id.*, at 4.

1 The methodology for allocating costs to the Company's Virginia jurisdictional
2 customers is consistent with the methodology approved by the Commission in the most-
3 recently approved Rider S application.⁴³ Based on the foregoing, Staff does not oppose the
4 Company's proposed cost allocation methodology.

5 **Q. PLEASE DESCRIBE DOMINION'S CALCULATION OF RIDER S RATES FOR**
6 **RATE YEAR 1.**

7 **A.** As noted previously, the Total Revenue Requirement proposed by the Company for Rate
8 Year 1 is \$191,532,000. The Company proposes to allocate the revenue requirement to
9 each customer class using the allocation factors described above.⁴⁴ Next, the Company
10 divides the allocated revenue requirements for each customer class by the class' forecasted
11 April 1, 2022 – March 31, 2023, kilowatt hour ("kWh") sales to create a rate for each
12 customer class. These class-level rates are then used to develop charges, one applicable to
13 each of the Company's rate schedules.⁴⁵ This process is shown in Company witness Davis'
14 Schedule 1a.

15 For any rate schedule that includes customers from only one customer class, such
16 as Residential Rate Schedules 1, 1P, 1S, 1T, and 1W, the associated Rider S revenue
17 requirement is simply equal to the per-kWh rate for the applicable customer class
18 multiplied by the associated kWh sales. For Rate Schedules GS-3, GS-4 (Primary), and
19 GS-4 (Transmission), which are billed on a demand basis, the respective rate class revenue

⁴³ 2020 Rider S, Final Order (Feb. 24, 2021).

⁴⁴ Davis Direct at 4-5.

⁴⁵ *Id.* at 5-7.

1 requirement is divided by the associated per kilowatt ("kW") billing determinants to
2 determine the Rider S rate. Rate Schedules GS-2 and GS-2T are billed either on a demand
3 basis or an energy basis, depending on the individual customer's load factor. If the
4 customer's load is 50 percent or less, the charges are billed on an energy, or per-kWh, basis;
5 if the monthly load factor exceeds 50 percent, charges are billed on a demand, or per-kW,
6 basis.⁴⁶ The GS-2 and GS-2T Rider S rates are based on the combined GS-2 and GS-2T
7 revenue requirement divided by the combined energy usage of the two rate schedules. The
8 per-kW charges were developed in a similar manner. Company witness Davis' Schedule 1a
9 demonstrates the calculation of Rate Year 1 Rider S rates for Rate Schedules GS-2, GS-
10 2T, GS-3, and GS-4.

11 **Q. PLEASE DISCUSS THE IMPACT OF THE PROPOSED RIDER S SURCHARGES**
12 **ON CUSTOMER BILLS FOR THE PROPOSED RATE YEAR 1.**

13 **A.** The impact of the proposed Rider S surcharges for Rate Year 1 for Residential Schedule 1,
14 General Service Schedules GS-1, GS-2, GS-3, and GS-4, and Church Schedule 5C are
15 shown in Company witness Davis' Schedule 3.

16 For a typical residential customer utilizing 1,000 kWh per month, the proposed
17 Rider S surcharges in Rate Year 1, from April 1, 2022, through March 31, 2023, will result
18 in a monthly bill increase of \$0.09, or a total Rider S charge of \$3.70 per month.

19 Staff notes that the Company has several rate adjustment clause proceedings

⁴⁶ *Id.*

1 and changes associated with base rates pending before the Commission.⁴⁷ The impact of
 2 the proposed or anticipated rate adjustment clauses and other changes for Rate Year 1 is
 3 shown in Table 1, below:

⁴⁷ See *Petition of Virginia Electric and Power Company, For approval of a rate adjustment clause, designated Rider RGGI, under § 56-585.1 A 5 e of the Code of Virginia*, Case No. PUR-2020-00169, Doc. Con. Cen. No. 211160007, Order on Reconsideration (Nov. 17, 2021); *Application of Virginia Electric and Power Company, For a 2021 triennial review of the rates, terms and conditions for the provision of generation, distribution and transmission services pursuant to § 56-585.1 A of the Code of Virginia*, Case No. PUR-2021-00058, Doc. Con. Cen. No. 211160097, Final Order (Nov. 18, 2021); *Petition of Virginia Electric and Power Company, For approval of a rate adjustment clause, designated Rider GT, under § 56-585.1 A 6 of the Code of Virginia*, Case No. PUR-2021-00083, Doc. Con. Cen. No. 210930051, Order for Notice and Hearing (Sep. 15, 2021); *Application of Virginia Electric and Power Company, For revision of a rate adjustment clause: Rider U, new underground distribution facilities, for the rate year commencing April 1, 2022*, Case No. PUR-2021-00110, Doc. Con. Cen. No. 210650018, Order for Notice and Hearing (Jun. 28, 2021); *Application of Virginia Electric and Power Company, For revision of rate adjustment clause: Rider B, Biomass conversions of the Altavista, Hopewell, and Southampton Power Stations for the rate year commencing April 1, 2022*, Case No. PUR-2021-00111, Doc. Con. Cen. No. 210650014, Order for Notice and Hearing (Jun. 28, 2021); *Application of Virginia Electric and Power Company, For revision of rate adjustment clause: Rider GV, Greenville County Power Station, For the rate years commencing April 1, 2022, and April 1, 2023*, Case No. PUR-2021-00112, Doc. Con. Cen. No. 210650031, Order for Notice and Hearing (Jun. 29, 2021); *Application of Virginia Electric and Power Company, For revision of rate adjustment clause: Rider R, Bear Garden Generating Station, for the rate years commencing April 1, 2022, and April 1, 2023*, Case No. PUR-2021-00113, Doc. Con. Cen. No. 210650022, Order for Notice and Hearing (Jun. 28, 2021); *Application of Virginia Electric and Power Company, For revision of rate adjustment clause: rider W, Warren County Power Station, For the rate year commencing April 1, 2022*, Case No. PUR-2021-00115, Doc. Con. Cen. No. 210710041, Order for Notice and Hearing (Jul. 2, 2021); *Application of Virginia Electric and Power Company, For revision of rate adjustment clause: Rider US-3, Colonial Trail West and Spring Grove 1 Solar Projects, for the rate year commencing June 1, 2022*, Case No. PUR-2021-00118, Doc. Con. Cen. No. 210830045, Order for Notice and Hearing (Aug. 17, 2021); *Application of Virginia Electric and Power Company, For revision of rate adjustment clause: Rider US-4, Sadler Solar Project, for the rate year commencing June 1, 2022*, Case No. PUR-2021-00119, Doc. Con. Cen. No. 210830044, Order for Notice and Hearing (Aug. 17, 2021); *Application of Virginia Electric and Power Company, For approval and certification of the Coastal Virginia Offshore Wind Commercial Project and Rider Offshore Wind, pursuant to §§ 56-585.1:11, 56-46.1, 56-265.1 et seq., and 56-585.1 A 6 of the Code of Virginia*, Case No. PUR-2021-00142, Doc. Con. Cen. No. 211130002, Application (Nov. 5, 2021); *Petition of Virginia Electric and Power Company, For approval of the RPS Development Plan, approval and certification of the proposed CE-2 Solar Projects pursuant to §§ 56-580 D and 56-46.1 of the Code of Virginia, revision of rate adjustment clause, designated Rider CE, under § 56-585.1 A 6 of the Code of Virginia, and a prudence determination to enter into power purchase agreements pursuant to § 56-585.1:4 of the Code of Virginia*, Case No. PUR-2021-00146, Doc. Con. Cen. No. 211010114, Order for Notice and Hearing (Oct. 6, 2021); *Petition of Virginia Electric and Power Company, For approval of a rate adjustment clause, designated Rider SNA, under § 56-585.1 A 6 of the Code of Virginia*, Case No. PUR-2021-00229, Doc. Con. Cen. No. 211040121, Order for Notice and Hearing (Oct. 26, 2021); *Application of Virginia Electric and Power Company, For revision of rate adjustment clause: Rider US-2, Scott, Whitehouse, and Woodland Solar Power Stations, for the rate year commencing September 1, 2022*, Case No. PUR-2021-00238, Doc. Con. Cen. No. 211050079, Order for Notice and Hearing (Oct. 29, 2021); and *Application of Virginia Electric and Power Company, For revision of rate adjustment clause: Rider BW, Brunswick County Power Station, for the Rate Years commencing September 1, 2022, and September 1, 2023*, Case No. PUR-2021-00239, Doc. Con. Cen. No. 211040064, Order for Notice and Hearing (Oct. 25, 2021). Staff notes that the Company anticipates filing several additional RAC applications soon.

Table 1: Bill Impact for Typical Residential Customer Utilizing 1,000 kWh/month			
	Total Bill	\$ Change	% Change
Seasonally Weighted Bill (Dec. 1, 2021)	\$ 120.33		
Base Rate Changes (Proposed Eff. Jan. 1, 2022)		\$ (0.89) ⁴⁸	-0.74%
Rider RGGI (Eff. Jan. 1, 2022)		\$ 2.39	1.99%
Seasonally Weighted Bill (Jan. 1, 2022)	\$ 121.83	\$ 1.50	1.25%
Rider B (Proposed Eff. Apr. 1, 2022)		\$ (0.15)	-0.12%
Rider R (Proposed Eff. Apr. 1, 2022)		\$ 0.07	0.06%
Rider S (Proposed Eff. Apr. 1, 2022)		\$ 0.09	0.07%
Rider W (Proposed Eff. Apr. 1, 2022)		\$ 0.11	0.09%
Rider GV (Proposed Eff. Apr. 1, 2022)		\$ (0.10)	-0.08%
Rider U (Proposed Eff. Apr. 1, 2022)		\$ 0.39	0.32%
Seasonally Weighted Bill (Apr. 1, 2022)	\$ 122.24	\$ 0.41	0.34%
Rider CE (Proposed Eff. May 1, 2022)		\$ 1.13	0.92%
Seasonally Weighted Bill (May 1, 2022)	\$ 123.37	\$ 1.13	0.92%
Rider US-3 (Proposed Eff. Jun. 1, 2022)		\$ 0.25	0.20%
Rider US-4 (Proposed Eff. Jun. 1, 2022)		\$ 0.11	0.09%
Rider GT (Proposed Eff. Jun. 1, 2022)		\$ 1.17	0.95%
Seasonally Weighted Bill (Jun. 1, 2022)	\$ 124.90	\$ 1.53	1.24%
Rider BW (Proposed Eff. Sep. 1, 2022)		\$ 0.70	0.56%
Rider US-2 (Proposed Eff. Sep. 1, 2022)		\$ 0.05	0.04%
Rider SNA (Proposed Eff. Sep. 1, 2022)		\$ 2.11	1.69%
Rider OSW (Proposed Eff. Sep. 1, 2022)		\$ 1.45	1.16%
Seasonally Weighted Bill (Sep. 1, 2022)	\$ 129.21	\$ 4.31	3.45%
Cum. Change Dec. 1, 2021 - Sep. 1, 2022		\$ 8.88	7.38%

1 **Q. PLEASE BRIEFLY DISCUSS THE CALCULATION OF RIDER S SURCHARGES**
2 **FOR RATE YEAR 2.**

3 **A.** The Company's proposed Rider S charges for Rate Year 2 are calculated, generally, in the
4 manner described above for the calculation of Rate Year 1. Company witness Davis
5 provides proposed Rate Year 2 Rider S rates in Schedule 2 of her Direct Testimony.

⁴⁸ Staff notes that this value is an approximation of the effect of a \$50 million reduction in generation base rates, pending formal filing of the Company's Compliance Filing in Case No. PUR-2021-00058 ("Triennial Review") pursuant to the Commission's Final Order, Doc. Con. Cen. No. 211160097 (Nov. 18, 2021). Table 1 does not include the effects of a \$255 million bill credit or a \$25 million voluntary customer refund (collectively, "Bill Credits") which were also approved in the Commission's Final Order in the 2021 Triennial Review. The final credit rates associated with these Bill Credits have not yet been submitted to Staff at the time of this writing, pending formal filing of the Company's 2021 Triennial Review Compliance Filing.

1 **Q. PLEASE DISCUSS THE COMPONENTS OF THE RIDER S SURCHARGES AS**
2 **PROPOSED FOR RATE YEAR 2.**

3 **A.** The proposed Rider S surcharges for Rate Year 2 are comprised of the Projected Cost
4 Recovery Factor; this is because there are no true-ups for prior years for Rate Year 2. The
5 Company expects to propose crediting to or recovering from customers any over- or under-
6 recovery of the revenue requirements that occurs during calendar years 2021 and 2022
7 through actual cost true-up factors in the biennial update of Rider S to be filed in June
8 2023.⁴⁹

9 **Q. WHAT PROJECTED COST RECOVERY FACTOR REVENUE REQUIREMENT**
10 **DOES THE COMPANY PROPOSE FOR RATE YEAR 2?**

11 **A.** The Company proposes a Projected Cost Recovery Factor revenue requirement for Rate
12 Year 2 of \$191,292,000.⁵⁰

13 **Q. PLEASE DISCUSS THE ALLOCATION FACTORS THE COMPANY PROPOSES**
14 **TO ALLOCATE THE TOTAL REVENUE REQUIREMENT FOR RATE YEAR 2**
15 **TO THE VIRGINIA JURISDICTIONAL RATE CLASS.**

16 **A.** The Company proposes to allocate the Projected Cost Recovery Factor, and thus, the
17 revenue requirement, for Rate Year 2 to Virginia jurisdictional customers using Baseline
18 Factor 1 for 2020.⁵¹ This allocation factor is the same Baseline Factor 1 for 2020

⁴⁹ See the Company's response to Staff Interrogatory No. 4-36, attached hereto as part of Attachment No. DJD-1.

⁵⁰ Application at 8.

⁵¹ Davis Direct at 4.

1 previously discussed and is consistent with the methodology approved by the Commission
2 in the most-recently approved Rider S application;⁵² as such, Staff is unopposed to the
3 Company's proposed cost allocation methodology for Rate Year 2.

4 **Q. PLEASE DESCRIBE DOMINION'S CALCULATION OF RIDER S RATES FOR**
5 **RATE YEAR 2.**

6 **A.** The Company proposes to develop Rider S rates for Rate Year 2 in a manner identical to
7 those previously discussed regarding Rate Year 1. This is shown in Company witness
8 Davis' Schedule 1b.

9 **Q. PLEASE DISCUSS THE IMPACT OF THE PROPOSED RIDER S SURCHARGES**
10 **ON CUSTOMER BILLS FOR THE PROPOSED RATE YEAR 2.**

11 **A.** For a typical residential customer utilizing 1,000 kWh per month, the proposed Rider S
12 surcharges in Rate Year 1, from April 1, 2022, through March 31, 2023, will result in a
13 monthly bill increase of \$0.09. For a typical residential customer utilizing 1,000 kWh per
14 month, the proposed Rider S surcharges in Rate Year 2, from April 1, 2023 through March
15 31, 2024, will result in a monthly bill increase of \$0.02 compared to Rate Year 1. This
16 would be a total Rider S charge of \$3.72 per month.

17 **Q. DOES STAFF HAVE ANY ADDITIONAL COMMENTS REGARDING THE**
18 **RIDER S SURCHARGES PROPOSED IN THIS PROCEEDING?**

⁵² 2020 Rider S.

1 **A.** Yes. Staff does not oppose the cost allocation and rate design methodologies used to
 2 develop the proposed surcharges in this proceeding. Should the Commission approve a
 3 revenue requirement that differs from the Company's requested revenue requirement for
 4 proposed Rate Years 1 or 2, Staff recommends that the corresponding Rider S charges be
 5 adjusted proportionately. Consequently, if the revenue requirement approved is lower than
 6 that proposed, the Rider S charges should be proportionately lowered. This
 7 recommendation is intended to maintain the revenue apportionment and rate design
 8 methodology proposed by the Company in this proceeding.

Conclusions and Recommendations

9 **Q.** **PLEASE SUMMARIZE YOUR CONCLUSIONS AND RECOMMENDATIONS IN**
 10 **THIS CASE.**

11 **A.** My conclusions and recommendations in the instant case are as follows:

- 12 - The Company is proposing to transition Rider S to biennial update filings,
 13 meaning the Company would not file another Rider S application until
 14 2023. Staff is unopposed to this proposed modification.
- 15 - The Company's unit retirement analysis from its 2020 IRP indicates that it
 16 is not economic to continue the operation of VCHEC. The Company
 17 anticipates continuing investments in capital improvements to continue the
 18 operation of VCHEC through 2045.
- 19 - Given the regulatory climate at both the state and federal levels regarding
 20 greenhouse gas emissions, including carbon dioxide, and environmental
 21 regulations such as RGGI, Staff believes that it may not be advisable to
 22 continue capital investment in a unit that the Company's analysis shows to
 23 be uneconomic to continue operating.
- 24 - To address this concern, Staff recommends that the Commission direct the
 25 Company to analyze and report to the Commission a possible pathway
 26 towards economic viability for the Project on a going-forward basis. Staff
 27 recommends that this report include analyses of scenarios in which VCHEC
 28 retires prior to the statutorily required date of 2045, including, at a

1 minimum, years 2026 and 2030. Staff further recommends that this report
2 also include a plan or plans to repurpose the Project site to address economic
3 impacts and electric system reliability impacts of retiring the unit.
4 Additionally, Staff recommends that this report include analyses of the
5 impact of the unit's retirement on environmental justice and the social cost
6 of carbon. Lastly, Staff recommends that this report include analysis of any
7 economic impacts (including any positive impacts that may mitigate the
8 negative impacts) of potential unit retirement.

- 9 - The Company's methodology for cost allocation and rate design are,
10 generally, the same as those previously approved by the Commission in
11 Case No. PUR-2020-00102. Staff is not opposed to the Company's
12 proposed rate design methodology. The bill impact of the proposed Rider
13 S surcharges for Rate Year 1 for a typical residential customer utilizing
14 1,000 kWh per month is an increase of \$0.09 per month, for a total Rider S
15 charge of \$3.70 per month; the bill impact for Rate Year 2 for the same
16 customer is an increase of \$0.02, or a total Rider S charge of \$3.72, per
17 month compared to Rate Year 1 rates.

18 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

19 **A.** Yes, it does.

ATTACHMENT NO. DJD-1

Virginia Electric and Power Company
Case No. PUR-2021-00114
Virginia State Corporation Commission Staff
Second Set

The following response to Question No. 19 of the Second Set of Interrogatories and Requests for Production of Documents propounded by the Virginia State Corporation Commission Staff received on July 12, 2021 has been prepared under my supervision.

Corey J. Riordan
Business Performance Consultant
Dominion Energy Services, Inc.

Question No. 19

Please provide the following information regarding the lined coal combustion residuals ("CCR") facilities at the Virginia City Hybrid Energy Center ("VCHEC"):

- (a) Estimate the maximum and currently available capacity, in million cubic yards, of lined CCR facilities at VCHEC;
- (b) Please confirm that, per engineering documents posted on the Company's website (<https://www.dominionenergy.com/projects-and-facilities/electric-projects/coal-ash/ccr-rule-compliance-data-and-information>), the Company is permitted to develop approximately 160 acres for the disposal of approximately 35 million cubic yards of fossil fuel combustion byproducts resulting from VCHEC's operation;
- (c) Provide the capacity, in million cubic yards, that has been built to date with a breakdown by cell; and
- (d) How much capacity has been filled with coal ash as of July 1, 2021?

Response:

- (a) The Curley Hollow Landfill has a capacity of approximately 34 million cubic yards. Currently, the existing cells of Stage 1A, 1B, and 2B have an approximate capacity of 10 million cubic yards.
- (b) Confirmed. The Curley Hollow Landfill is approximately 157.5 acres and has a maximum capacity of 34,050,918 cubic yards of waste. The difference between the 35 million cubic yard figure (gross airspace) and the 34 million cubic yard number (net airspace) is the volume of the final cover included in the gross airspace calculation as well as a reduction of airspace due to a small design adjustment for constructability purposes.
- (c) Currently Stages 1A, 1B, and 2B have been constructed and are in service. The capacity of these operating stages is 10,023,118 cubic yards of waste materials. Stage 1A has a designed Stage Disposal Volume (cy) of 4,882,652. Stage 1B has a designed Stage

Disposal Volume (cy) of 2,683,319. Stage 1C has a designed Stage Disposal Volume (cy) of 2,457, 147.

- (d) As of June 14, 2021, the date of the Q2-2021 land survey, the landfill has received 8,229,714 cubic yards of waste material.

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Virginia Electric and Power Company
Case No. PUR-2021-00114
Virginia State Corporation Commission Staff
Second Set

The following response to Question No. 20 of the Second Set of Interrogatories and Requests for Production of Documents propounded by the Virginia State Corporation Commission Staff received on July 12, 2021 has been prepared under my supervision.

Corey J. Riordan
Business Performance Consultant
Dominion Energy Services, Inc.

Question No. 20

Is the Company currently building or does the Company anticipate building any additional lined CCR facilities at VCHEC? If so, please identify existing or anticipated timelines for contract execution and construction for these facilities, as appropriate.

Response:

Stage 2A and 3B construction is scheduled to be completed in Q4-2021, which will result in an additional capacity of 14,218,100 cubic yards. Note that Stage 2A (32 acres) results in 6,917,800 cubic yards of capacity while Stage 3B (4 acres) results in an additional 7,300,300 cubic yards of capacity due to the geometry of the valley fill design.

Virginia Electric and Power Company
Case No. PUR-2021-00114
Virginia State Corporation Commission Staff
Second Set

The following response to Question No. 22 of the Second Set of Interrogatories and Requests for Production of Documents propounded by the Virginia State Corporation Commission Staff received on July 12, 2021 has been prepared under my supervision.

Corey J. Riordan
Business Performance Consultant
Dominion Energy Services, Inc.

Question No. 22

Please identify the date of execution of the contract for the addition of the new lined CCR facility, Curley Hollow cells 2A/3B, totaling approximately 14.2 million cubic yards, including any specific "milestones" contained within the contract.

Response:

The Ryan Inc. Central contract was executed on May 1, 2013 to construct the Final Leachate Pond, Stage 1A, Stage 2B, Stage 2A, and Stage 3B.

Virginia Electric and Power Company
Case No. PUR-2021-00114
Virginia State Corporation Commission Staff
Second Set

The following response to Question No. 25 of the Second Set of Interrogatories and Requests for Production of Documents propounded by the Virginia State Corporation Commission Staff received on July 12, 2021 has been prepared under my supervision.

Jeff Matzen
 Manager – Integrated Strategic Planning
 Dominion Energy Virginia

Question No. 25

Please refer to the 2020 IRP at Appendix 5D. Has the Company updated the forecasted capacity factors for VCHEC since the filing of this Appendix? If so, please provide the updated capacity factors and estimated annual volumes of coal ash anticipated to be generated by VCHEC associated with these forecasted capacity factors.

Response:

Yes, the company has updated the forecasted capacity factors for VCHEC since filing Appendix 5D of the 2020 IRP.

The updated capacity factors are:

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Net Capacity Factor	10.53	15.05	14.16	15.5	13.44	9.86	9.28	9.47	6.33	5.52	4.5	4.22	4.43	3.56	3.84

Associated estimated coal ash volumes are:

	2021*	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Coal Ash (cubic yards)	152,982	237,282	230,045	246,187	218,783	160,624	156,318	156,170	81,252	70,868	57,728	54,327	56,917	45,754	49,283

* 2021 projections adjusted to incorporate Jan-Mar actual coal consumption.

Virginia Electric and Power Company
Case No. PUR-2021-00114
Virginia State Corporation Commission Staff
Fourth Set

The following response to Question No. 36 of the Fourth Set of Interrogatories and Requests for Production of Documents propounded by the Virginia State Corporation Commission Staff received on August 4, 2021 has been prepared under my supervision.

Christopher J. Lee
Manager - Regulation
Dominion Energy Services, Inc.

Question No. 36

Please refer to the Company's Application at page 7. It is Staff's understanding that any under-or over-recovery of the revenue requirements during Rate Year 1 and Rate Year 2 will be recovered in a future Rider S Actual Cost True-Up Factor. Is this correct?

Response:

Yes. For example, the Company expects to credit to, or recover from, customers any over/under collection of the revenue requirement occurring during calendar years 2021 and 2022, through the actual cost true-up factors in its biennial update of Rider S to be filed in June 2023.

Virginia Electric and Power Company
Case No. PUR-2021-00114
Virginia State Corporation Commission Staff
Fourth Set

The following response to Question No. 37 of the Fourth Set of Interrogatories and Requests for Production of Documents propounded by the Virginia State Corporation Commission Staff received on August 4, 2021 has been prepared under my supervision.

Shane Compton
Manager – Integrated Strategic Planning
Dominion Energy Services

Question No. 37

Please confirm that the forecasted capacity factors for VCHEC shown in Appendix 5 D of the 2020 IRP reflect modeling based on economic dispatch.

Response:

Confirmed.

Confidential Attachment Staff Set 04-40 (TAH) is entirely confidential and is being provided pursuant to the protections set forth in 5 VAC 5-20-170, the Protective Ruling issued in this proceeding on July 16, 2021, any subsequent protective ruling or ruling that may be issued for confidential or extraordinarily sensitive information in this proceeding, and the Agreements to Adhere executed pursuant to any such orders or rulings in this proceeding

Virginia Electric and Power Company
Case No. PUR-2021-00114
Virginia State Corporation Commission Staff
Sixth Set

The following response to Question No. 45 of the Sixth Set of Interrogatories and Requests for Production of Documents propounded by the Virginia State Corporation Commission Staff and received on September 13, 2021 has been prepared under my supervision.

Wesley A. Hudson
Manager – Electric Market Operations
Virginia Electric and Power Company Name

Question No. 45

Please refer to the Company's response to Staff Interrogatory Nos. 5-43 and 5-44, and Confidential Attachment Staff Set 05-44 (JS). Provide a copy of Attachment Staff Set 05-44 (JS) updated to include the following information:

- (a) The hourly quantity of megawatts generated and sold by VCHEC for all hours when VCHEC was dispatched;
- (b) Identify, for each hour when VCHEC was dispatched, whether the unit was self-dispatched (or alternatively designated as "must-run") or was dispatched by PJM on an economic basis; and
- (c) Identify, by hour, whether the unit was operating one boiler or two.

Response:

- (a) through (c) See Confidential Attachment Staff Set 06-45 (WAH).

Confidential Attachment Staff Set 06-45 (WAH) contains confidential information as indicated and is being provided pursuant to the protections set forth in 5 VAC 5-20-170, the Protective Rulings issued in this proceeding on July 16, 2021 and August 16, 2021, any subsequent protective order or ruling that may be issued for confidential or extraordinarily sensitive information in this proceeding, and the Agreements to Adhere executed pursuant to any such orders or rulings.

Virginia Electric and Power Company
Case No. PUR-2021-00114
Sierra Club
Second Set

The following response to Question No. 6 of the Second Set of Interrogatories and Requests for Production of Documents propounded by the Sierra Club and received on September 17, 2021 has been prepared under my supervision.

Jacqueline R. Vitiello
Director – Power Generation Regulated Operations
Virginia Electric and Power Company

As it pertains to legal matters, the following response to Question No. 6 of the Second Set of Interrogatories and Requests for Production of Documents propounded by the Sierra Club and received on September 17, 2021 has been prepared under my supervision.

Timothy D. Patterson
McGuireWoods LLP

Question No. 6

Regarding the Company's unit commitment decision process for VCHEC from 2018–2021:

- (a) Describe the Company's process for determining whether to self schedule a generator in the day-ahead energy market at the unit's minimum operating level and allow the unit to dispatch economically above the minimum level.
- (b) Describe the Company's process for determining whether to economically dispatch a generator in the day-ahead energy market.
- (c) Describe all factors, both quantitative and qualitative, that the Company considers in its unit commitment decision-making process.
- (d) Please indicate whether the Company performs economic analyses to inform its unit commitment decisions for VCHEC (i.e., decisions regarding whether to self-schedule a generator in the day-ahead energy market or take them offline for economic reasons)?
 - (i) If not, explain why not.
 - (ii) If so, provide all such analyses conducted from 2018-2021 in native, machine-readable format.
 - (1) If so, identify each category of cost and revenue accounted for in such analyses.
 - (2) If so, identify whether such analyses are conducted differently for periods immediately preceding or following unit outages, and explain any differences.

(3) If so, please indicate the timeframe over which the Company evaluates whether a unit's commitment decision maximizes a unit's economic value to customers.

(e) Please provide all internal documents and reports created for, or during, the time period January 1, 2018 – June 30, 2021 that discuss the Company's unit commitment and dispatch practices, strategies, and outcomes.

Response:

(a) VCHEC is a capacity resource in PJM. Capacity resources have a must offer requirement in PJM's day-ahead energy market to their full unit capability. The offer consists of an economic minimum and economic maximum. If a unit is self-scheduled in the day-ahead market, PJM uses the offer curve to determine what level the unit should run. The Company does not choose what level PJM is awarding.

(b) The Company uses a Locational Marginal Price ("LMP") forecast to determine if VCHEC should be economically dispatched. If the LMP is higher than the unit cost, dispatch of the unit is economical. Startup costs are also considered over the length of a 14-day dispatch.

(c) Factors that the Company considers in the unit commitment decision-making process include:

- LMP forecast
- Unit cost
- Weather forecast
- PJM emergency notifications
- Length of expected run
- Environmental limits
- Environmental requirements
- Upcoming outages
- Fuel inventory/availability
- Testing requirements

(d) Yes, the Company looks at an expected margin for unit commitment decisions for VCHEC.

(i) N/A

(ii) See Extraordinarily Sensitive Attachment Sierra Club Set 02-06(d)(ii) (JRV). The Company uses an internal tool that calculates margins on an hourly basis for 5 days in the future for all Dominion Energy Virginia units. These margins are overridden each day, so the data included here is not necessarily what was seen on the day of a dispatch.

(1) The margin calculation uses the LMP forecast and unit cost information. It also includes congestion costs.

(2) Analyses are not conducted differently before or after outages.

(3) The Company looks at running VCHEC for at least 14 days.

- Extraordinarily Sensitive Attachment Sierra Club Set 02-06(d)(ii) (JRV) and Extraordinarily Sensitive Attachment Sierra Club Set 02-06(e) (JRV) are extraordinarily sensitive in their entirety, and are being provided pursuant to the protections set forth in 5 VAC 5-20-170, the Hearing Examiner's Protective Rulings dated July 16, 2021 and August 16, 2021, any subsequent protective order or ruling that may be issued for confidential or extraordinarily sensitive information in this proceeding, and the Agreements to Adhere executed pursuant to any such orders or rulings.

ATTACHMENT NO. DJD-2



**COMMONWEALTH OF VIRGINIA
STATE CORPORATION COMMISSION**

PREFILED STAFF TESTIMONY

VIRGINIA ELECTRIC AND POWER COMPANY

**In re: Virginia Electric and Power Company's Integrated Resource Plan
filing pursuant to Va. Code § 56-597 *et seq.***

Public Version Only

Volume II of II

PUR-2020-00035

September 29, 2020

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DIVISION OF PUBLIC UTILITY REGULATION

PART F

2211220004 Dalton
200930132

PART C

CASE NO. PUR-2020-00035

- Discuss the Company's current supply-side resources and its planned generation retirements;
- Provide a summary of Dominion's current capacity and energy positions;
- Assess Dominion's current and future energy and capacity needs;
- Discuss the Company's busbar screening analysis;

1

2020-09-09 10:00:00

Virginia Electric and Power Company
Case No. PUR-2020-00035
Appalachian Voices
Set 3

The following supplemental response (dated September 9, 2020) to Question No. 2 of the Third Set of Interrogatories and Requests for Production of Documents Propounded by Appalachian Voices received on May 27, 2020, was prepared by or under the supervision of:

Daria Adamenko
Senior Financial Analyst
Virginia Electric and Power Company

Question No. 2

Please reference the Company's response to Appalachian Voices Set 1-10, which in turn references the response to Staff Set 1-17. In response to Staff Set 1-17, the Company provided Attachment Staff Set 01-17(a) ES and Attachment Staff Set 01-17(b) ES. Has the Company performed a retirement analysis of any unit not included in Attachment Staff Set 01-17(a) ES and Attachment Staff Set 01-17(b) ES? If so, please provide the analysis.

Supplemental Response (dated Sept. 9, 2020):

Subject to the Hearing Examiner's Ruling dated September 2, 2020, the Company provides the following response:

See Supplemental Attachment APV Set 03-02(a) ES. Supplemental Attachment APV Set 03-02(a) ES contains extraordinarily sensitive information as indicated, and is being provided pursuant to the protections set forth in 5 VAC 5-20-170, the Hearing Examiner's Protective Ruling and Additional Protective Treatment for Extraordinarily Sensitive Information dated May 6, 2020, any other protective order or ruling that may be issued for confidential or extraordinarily sensitive information in this proceeding, and the Agreements to Adhere executed pursuant to any such orders or rulings.

Supplemental Attachment APV Set 03-02(a) ES
REDACTED

The presentation contains extraordinarily sensitive
and public information as noted on each page



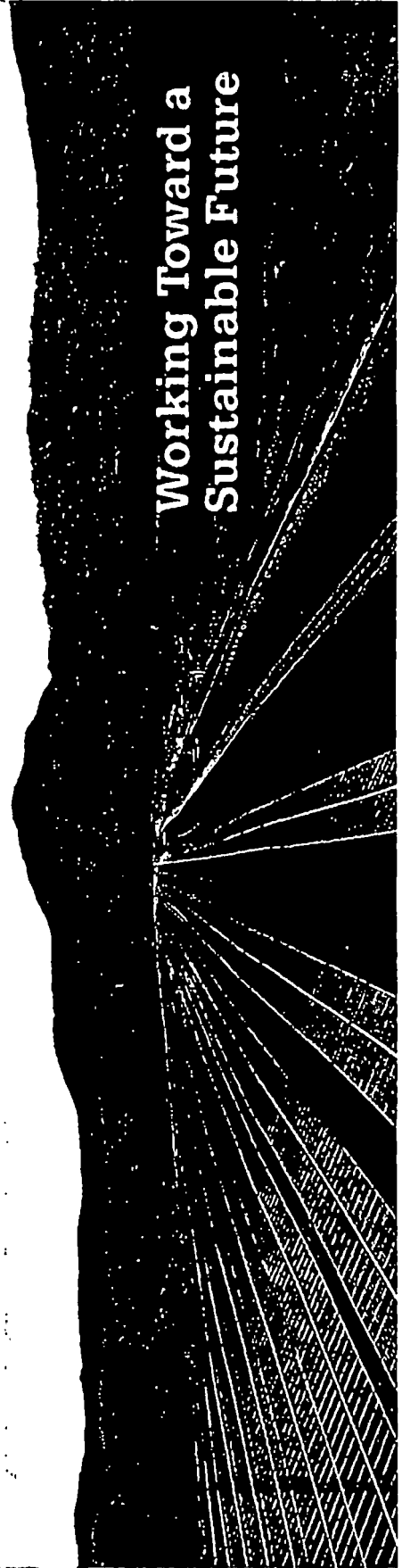
**Dominion
Energy**



Unit Analysis

March 2020

Working Toward a
Sustainable Future



SECRET

10-year NPV Results 2020-2029 (\$ Million)

		Sensitivities								
	Base	Fuel	Fed Mid RGGI VA	Low Capacity \$	High Capacity \$	VA RGGI	Federal Mid CO2	Federal High CO2	No CO2 Tax	Est. T&D Impact
		Coal								
	Chesterfield 5-6		(\$78)	(\$297)	(\$18)	(\$77)	(\$56)	(\$55)	(\$48)	\$100
	Clover		(\$21)	(\$116)	\$5	(\$21)	(\$11)	(\$11)	(\$8)	\$0
	Mount Storm		\$100	(\$318)	\$217	\$226	\$93	\$93	\$138	*\$60
	Virginia City		(\$472)	(\$624)	(\$429)	(\$473)	(\$437)	(\$440)	(\$423)	\$30
	Altavista		(\$43)	(\$55)	(\$40)	(\$45)	(\$47)	(\$46)	(\$48)	\$0
	Hopewell	Bio	(\$52)	(\$65)	(\$49)	(\$55)	(\$57)	(\$56)	(\$58)	\$0
	Southampton		(\$47)	(\$59)	(\$43)	(\$49)	(\$51)	(\$51)	(\$52)	\$0
	Yorktown 3		(\$18)	(\$190)	\$30	(\$17)	(\$14)	(\$20)	(\$13)	\$0
	Rosemary	Oil	\$21	(\$20)	\$33	\$21	\$22	\$21	\$22	\$0
	Bear Garden		\$224	\$63	\$268	\$224	\$262	\$255	\$263	\$0
	Brunswick		\$762	\$400	\$863	\$762	\$841	\$828	\$841	\$0
	Chesterfield 7-8		\$116	\$14	\$144	\$116	\$143	\$137	\$144	\$0
	Gordonsville		\$26	(\$32)	\$43	\$27	\$39	\$36	\$39	\$0
	Greensville		\$1,076	\$663	\$1,191	\$1,073	\$1,153	\$1,146	\$1,151	\$0
	Possum Point 6		\$151	(\$1)	\$194	\$152	\$187	\$180	\$188	\$0
	Warren		\$559	\$201	\$659	\$560	\$638	\$622	\$638	\$0

*T&D cost at Mount Storm is applicable if the station retires after Chesterfield 5-6 and Clover

Notes:

- 1) Positive NPV indicates customer benefit
- 2) Unit NPVs include property taxes and 15% allocated overhead, but exclude est. T&D cost
- 3) MWs assume UCAP
- 4) Mount Storm NPVs include \$10M annual B&O tax
- 5) Clover station is modeled @50% ownership

**Virginia State Corporation Commission
eFiling CASE Document Cover Sheet**

Attachment No. DJD-2

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Case Number (if already assigned)	PUR-2021-00201
Case Name (if known)	Commonwealth of Virginia, ex rel. State Corporation Commission, In re: Virginia Electric and Power Company's 2021 Update to its Integrated Resource Plan pursuant to Va. Code 56-597 et seq.
Document Type	APLA
Document Description Summary	1 of 3 - 2021 update to the 2020 Integrated Resource Plan of Virginia Electric and Power Company
Total Number of Pages	40
Submission ID	22720
eFiling Date Stamp	9/1/2021 3:10:29PM



**Dominion
Energy**

Actions Speak Louder

Planning and investing for our future.

2021 Update to the 2020 Integrated Resource Plan

Virginia Electric and Power Company

Case No. PUR-2021-00201 and Docket No. E-100, Sub 165

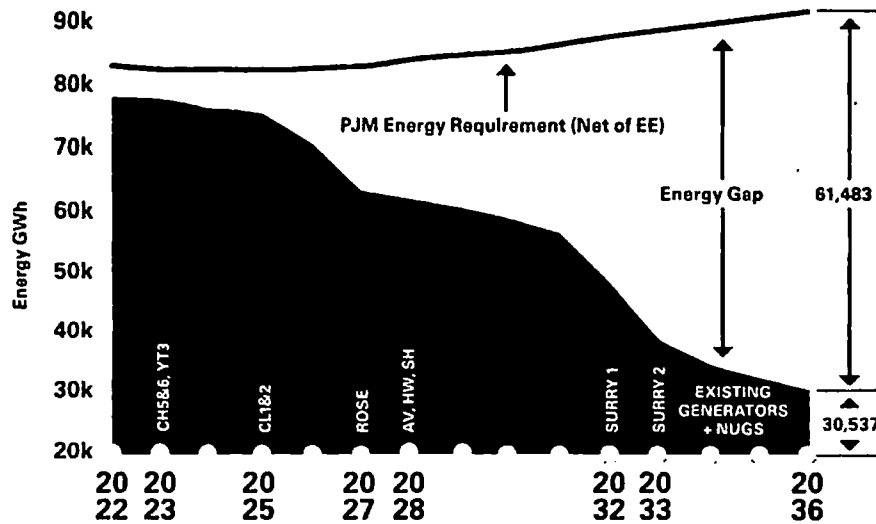
Filed September 1, 2021



Our Company

Results of 2021 Update

Figure 2.1.2: Current Company Energy Position (2022 to 2036)



Notes: "Existing Generators + NUGS" also include generation under construction; "EE" = energy efficiency; "CH5&6" = Chesterfield Units 5 & 6 (coal); "YT3" = Yorktown Unit 3 (oil); "CL1&2" = Clover Units 1 & 2 (coal); "Rose" = Rosemary (oil); "AV" = Altavista (biomass); "HW" = Hopewell; "SH" = Southampton (biomass).

Alternative Plans

The 2021 Update presents alternatives representing paths forward for the Company to meet the future capacity and energy needs of its customers, consistent with the 2020 Plan. Notably, more planning work is ongoing and necessary to test the grid under different conditions to ensure system reliability and security in the long term.

Specifically, the Company presents three Alternative Plans designed to meet customers' needs in the future under different scenarios, which were designed using constraint-based least-cost planning techniques:

Plan A: This Alternative Plan presents a least-cost plan that estimates future generation expansion while meeting applicable carbon regulations and the mandatory RPS Program requirements of the VCEA. Plan A is presented in compliance with SCC and NCUC orders and for cost comparison purposes only. For this Alternative Plan, the Company did not force the model to select any specific resource or exclude any reasonable resource and allowed the model to optimize the accompanying resource plan. Notably, Alternative Plan A does not meet the development targets for solar, wind, and energy storage resources in Virginia established through the VCEA.

Plan B: This Alternative Plan sets the Company on a trajectory toward dramatically reducing greenhouse gas emissions, taking into consideration future challenges and uncertainties. Plan B includes the significant development of solar, wind, and energy storage resources envisioned by the VCEA. Plan B preserves natural gas-fired generation to address future system reliability, stability, and energy independence issues.⁸ Over the Study Period, this Alternative Plan includes the development of nearly 18 gigawatts ("GW") of solar capacity, approximately 5 GW of offshore wind capacity, and approximately 2.7 GW of new energy storage.

Plan C: This Alternative Plan uses similar assumptions as Plan B but retires all Company-owned carbon-emitting generation by the end of 2045 resulting in zero CO₂ emissions from the Company's fleet in 2046. If the Company retires all carbon-emitting units by the end of 2045, approximately 10 GW of new incremental battery storage would be needed to continue to reliably meet customer load. For context, the Company currently has approximately 100 MW of energy storage under development, in addition to its 16 MW of pilot projects. Over time as more renewable

⁸ The natural gas resources preserved in Alternative Plan B differs from the 2020 Plan for two primary reasons: (i) Alternative Plan B no longer includes a 970 MW placeholder to address system reliability issues, and (ii) Rosemary is no longer classified as a natural gas unit.



Our Company

Results of 2021 Update

energy and storage resources are added to the system, the Company will learn if Plan C is capable of maintaining a reliable system.

All Alternative Plans include Virginia's participation in RGGI, utilize the load forecast prepared by PJM, and assume a capacity factor for all existing and future solar resources of 21.2%, which is the 3-year average of solar tracking facilities in Virginia, as required. In addition, Alternative Plans B and

C incorporate the social cost of carbon, as discussed in ***Social Cost of Carbon***.

Figures 2.2.1 through 2.2.3 show the build plans for each Alternative Plan. See Appendix 2A for the capacity, energy, and RECs associated with all Alternative Plans. See Appendix 2B for the capacity-related information directed by the SCC.

Figure 2.2.1: Alternative Plan A (nameplate MW)

Year	Solar COS	Solar PPA	Solar DER	OSW	Battery Storage	Natural Gas-Fired	Nuclear	Capacity Purchases	Retirements
2021	20	15							
2022	62	416							
2023		307							CH5&6, YT3, VCHEC, AV, HW, SH
2024								900	
2025								1,000	
2026						485		600	
2027						485		300	
2028								400	
2029								500	
2030								500	
2031								600	
2032							Surry 1	700	
2033							Surry 2	800	
2034								900	
2035								1,000	
2036								1,000	
TOTAL	82	738				970	1,676	9,200	2,567

"COS" = cost of service; "PPA" = power purchase agreement; "Solar DER" = solar distributed energy resources, whether Company-owned or PPA; "OSW" = offshore wind; "CH5&6" = Chesterfield Units 5 & 6 (coal); "YT3" = Yorktown Unit 3 (oil); "VCHEC" = Virginia City Hybrid Energy Center (coal/gob/biomass); "AV" = Altavista (biomass); "HW" = Hopewell (biomass); "SH" = Southampton (biomass).



Our Company

Generation — Supply-Side Resources

and energy replacements, system reliability, personnel, impact of continued operation of the unit(s) on the local economy, and environmental benefits, to name a few. The results of the ten-year cash flow analysis are included in Figure 5.1.1.

Figure 5.1.1: Ten-year Cash Flow Analysis Results (NPV \$ Million)

Units	2021 Plan A	2021 Plan B	Low Capacity Price	High Capacity Price
Clover 1-2	\$30	\$24	(\$51)	\$36
Mt. Storm 1-3	\$60	(\$4)	(\$288)	\$86
VCHEC	(\$357)	(\$381)	(\$483)	(\$347)
Altavista	(\$45)	(\$45)	(\$53)	(\$44)
Hopewell	(\$35)	(\$34)	(\$44)	(\$35)
Southampton	(\$44)	(\$43)	(\$53)	(\$43)
Rosemary	\$32	\$31	(\$3)	\$35
Bear Garden	\$149	\$119	\$9	\$159
Brunswick	\$648	\$570	\$336	\$672
Chesterfield 7-8	\$56	\$24	(\$32)	\$62
Gordonsville 1-2	\$31	\$22	(\$18)	\$35
Greenville	\$861	\$779	\$508	\$888
Possum Point 6	\$162	\$134	\$32	\$172
Warren	\$523	\$445	\$213	\$547

Note: High and Low Capacity Price scenarios used Plan A's underlying assumptions.

Second, as directed by the SCC, the Company included the same unit specific data for the units listed in Figure 5.1.1 into PLEXOS to allow the model to optimize endogenously the timing of unit retirements. The Company presented these results as part of Alternative Plan A, which showed Altavista, Hopewell, Southampton, and VCHEC retiring in 2023, and all other units running through the Study Period.

In Alternative Plans B and C, consistent with prior Plans, the Company aimed to determine a glide path so as to continue to reliably serve customers through the transition to a cleaner energy fleet, taking into consideration components such as capacity factors, performance characteristics, including ramping time and maintenance requirements, and environmental regulations.

VCHEC entered commercial operation in July 2012, and is designed to burn coal, waste coal, and biomass. In addition to serving customers' energy and capacity needs, VCHEC supports jobs, economic development, and water quality improvements in the coalfield regions of Virginia. Based on these qualitative factors, the retirement of VCHEC was modeled in 2045 in Alternative Plans B and C. Altavista, Hopewell, and Southampton serve customers' energy and capacity needs while also producing renewable energy credits and production tax credits. In the short term these biomass units supply renewable energy for the Company's 100% renewable energy tariff, help the Company transition to a cleaner energy fleet, and support their local economies, such as the logging and trucking industries. Based on these factors, the retirement of the three biomass units was modeled in 2028 in Alternative Plans B and C in order to meet the VCEA biomass retirement date.

As noted in the 2020 Plan, the Company anticipates retiring Yorktown Unit 3 and Chesterfield Units 5 and 6 in 2023. Other than these units, inclusion of a unit retirement in this 2021 Update should be considered as tentative only based on a snapshot in time. The Company has not made any decision regarding the retirement of any generating unit other than Yorktown Unit 3 and Chesterfield Units 5 and 6. The Company's final decisions regarding any unit retirement will be made at a future date. Appendix 5J lists the generating units considered for potential retirement.

Future Supply-Side Resources

The Company followed a similar process for selecting alternative resource types as described in Chapter 5.5 of the 2020 Plan.

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SEC. CLERK'S OFFICE
STATEMENT CONTROL CENTER

2021 JUN 22 PM 1:47

**COMMONWEALTH OF VIRGINIA
STATE CORPORATION COMMISSION**

PREFILED STAFF TESTIMONY

VIRGINIA ELECTRIC AND POWER COMPANY

**For approval of a rate adjustment clause, designated
Rider CCR, for the recovery of costs incurred to comply
with § 10.1-1402.03 of the Code of Virginia,
pursuant to Virginia Code § 56-585.1 A 5 e**

Volume I of II

Public Version

PUR-2021-00045

June 22, 2021

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Katya Kuleshova
DIVISION OF PUBLIC UTILITY REGULATION

PART A

VOLUME II

Sean Welsh
DIVISION OF UTILITY ACCOUNTING AND FINANCE

PART B

20200929

**PREFILED TESTIMONY
OF
KATYA KULESHOVA**

VIRGINIA ELECTRIC AND POWER COMPANY

CASE NO. PUR-2021-00045

1 **Q1. PLEASE STATE YOUR NAME AND POSITION WITH THE STATE**
2 **CORPORATION COMMISSION ("COMMISSION").**

3 **A1.** My name is Katya Kuleshova. I am a Strategic Planning Specialist with the Commission's
4 Division of Public Utility Regulation.

5 **Q2. WHAT ARE YOUR PRESENT RESPONSIBILITIES?**

6 **A2.** My duties as a Strategic Planning Specialist include reviewing utility rate adjustment
7 applications, integrated resource plans, renewable portfolio standard filings, and generation
8 certificate filings, as well as analyzing public utility rate increase applications regarding
9 cost of service, rate design, and terms and conditions of service. I am also responsible for
10 presenting testimony as a Staff witness and making alternative proposals to the
11 Commission when appropriate.

12 **Q3. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?**

13 **A3.** My testimony addresses the Application of Virginia Electric and Power Company's d/b/a
14 Dominion Energy Virginia ("Company" or "Dominion") filed pursuant to § 56-585.1 A 5
15 e of the Code of Virginia ("Code") for approval of a rate adjustment clause, designated
16 Rider CCR ("Petition"). In its filing, the Company seeks to recover costs incurred to
17 comply with state and federal environmental regulations applicable to generation facilities

2020-09-07

1 The Company did not conduct a Brema-specific Request for Proposals to evaluate
2 alternatives to the Company's proposed plan because the SB 1355 beneficiation
3 requirements are otherwise met in the Company's proposed plan.¹⁰³

4 **Q27. DOES STAFF HAVE STRATEGIC PLANNING SUGGESTIONS?**

5 **A27.** Yes. Staff has discovered that a new Cell 2A/3B at the Curley Hollow Landfill at the
6 Virginia City Hybrid Energy Center ("VCHEC") will be placed in service in the Fall 2021;
7 its capacity will be 14.2 million cubic yards.¹⁰⁴ The Company did not consider VCHEC as
8 a potential recipient for Rider CCR materials due to the distance between the Power
9 Stations and VCHEC, absence of on-site rail infrastructure at VCHEC, and permit
10 limitations.¹⁰⁵ Staff suggests that the Company take a second look at VCHEC and perform
11 a detailed Class 2 study to analyze transporting CCR material by rail from the Brema and
12 Possum Point Power Stations and placing it into Cell 2A/3B. Staff believes that performing
13 such analysis and submitting it to the Commission in the next Rider CCR filing will not
14 delay the Company's pond closure plans because landfill construction is scheduled to begin
15 around the third quarter 2022 at Brema¹⁰⁶ and around the first quarter 2023 at Possum
16 Point.¹⁰⁷

17 Even though VCHEC is currently lacking rail infrastructure onsite,¹⁰⁸ Company
18 witness Robert M. Bisha testified in Case No. PUE-2007-00066 ("VCHEC CPCN case")
19 that "[k]ey in the selection of this site was its proximity to and availability of adequate fuel

¹⁰³ Company's response to the Office of Attorney General Interrogatory No. 3-21. *See* Attachment KK-29.

¹⁰⁴ Company's response to Staff Interrogatory No. 4-30. *See* Attachment KK-35.

¹⁰⁵ Company's response to Staff Interrogatory No. 4-31. *See* Attachment KK-36.

¹⁰⁶ Stites Direct at 7.

¹⁰⁷ *Id.* at 15.

¹⁰⁸ Staff recognizes that additional rail infrastructure will be required on-site (and potentially offsite) at VCHEC for the Curley Hollow landfill to accept CCR material from the Power Stations by rail.

1 and accessibility to roads, rail, and water supply infrastructure."¹⁰⁹ Also, Company witness
 2 James K. Martin testified in that case that "[t]he Site has access to a rail siding that was
 3 used for a previous coal processing facility and it will be designed and permitted for future
 4 installation to allow alternative transportation to the Site."¹¹⁰ Recently, Company witness
 5 Glenn A. Kelly testified in case No. PUR-2020-00035 that "the VCEA explicitly carved
 6 out VCHEC to allow for its continued operations until 2045, presumably in recognition of
 7 ... the benefits it provides both to the local economy and to the Commonwealth's land and
 8 water cleanup efforts."¹¹¹ Although the cleanup efforts were a reference to reclaiming and
 9 using gob coal at VCHEC, dedicating Cell 2A/3B as a permanent storage location for Rider
 10 CCR materials would also advance environmental cleanup efforts while creating new jobs
 11 in Wise county. According to Company witness Glenn A. Kelly, "VCHEC supports jobs
 12 for 153 full-time employees, as well as an estimated 350 to 400 additional jobs in the
 13 region."¹¹²

14 Staff suggests transportation of CCR material from the Bremo and Possum Point
 15 Power Stations to the Curley Hollow landfill because Cell 2A/3B can fit the full volume of
 16 CCR material from both stations. According to the Company, the capacity in the
 17 preliminary designs for the proposed landfills at Bremo and Possum Point are
 18 approximately 6.5 million cubic yards and 5.3 million cubic yards.¹¹³ Further, AECOM

¹⁰⁹ *Application of Virginia Electric and Power Company, For a certificate of public convenience and necessity to construct and operate an electric generation facility in Wise County, Virginia, and for approval of a rate adjustment clause under §§ 56-585.1, 56-580 D, and 56-46.1 of the Code of Virginia*, Case No. PUE-2007-00066, Direct Testimony of Robert M. Bisha, at 2. (July 13, 2007)

¹¹⁰ VCHEC CPCN case, Direct Testimony of James K. Martin, at 12.

¹¹¹ *Commonwealth of Virginia, ex rel. State Corporation Commission, In re: Virginia Electric and Power Company's Integrated Resource Plan filing pursuant to Va. Code § 56-597 et seq.*, Case No. PUR-2020-00035, Rebuttal Testimony of Glenn A. Kelly, at 23.

¹¹² *Id.*

¹¹³ Company's response to Staff Interrogatory No. 4-34a. See Attachment KK-25.

1 considered railing CCR material from both Power Stations as a feasible option in the
2 studies commissioned by the Company in 2017 and 2018, in the latter case based on options
3 proposed by beneficiation bidders in their responses to the Company's RFP. The VCHEC
4 option could mitigate potential delay risks stemming from local approval processes related
5 to proposed landfill construction projects in Fluvanna and Prince William Counties.

6 If the Commission agrees with Staff's reasoning, Staff recommends that the
7 Commission direct the Company to present a Class 2 study in the next Rider CCR
8 proceeding in order to determine whether railing CCR material from the Bremo and
9 Possum Point Power Stations to VCHEC and placing it in Cell 2A/3B of the Curley Hollow
10 Landfill may be a lower cost solution, considering all the necessary infrastructure
11 investments.

12 **Q28. ISN'T THE CAPACITY OF THE CURLEY HOLLOW LANDFILL INCLUDING**
13 **THE NEW CELL 2A/2B ADDITION NEEDED FOR THE ASH GENERATED BY**
14 **VCHEC?**

15 **A28.** No. Based on the Company's 2020 IRP filed in Case No. PUR-2020-00035, VCHEC is
16 projected to have capacity factors in the single digits with only a 3.5% capacity factor
17 expected for 2035. VCHEC was originally designed as a base load unit; such units
18 typically run at capacity factors ranging from 70% to 90%. Based on Staff's calculations,
19 there appears to be enough existing capacity at the Curley Hollow Landfill to accommodate
20 all of the ash created by running VCHEC through 2035. Further, it appears that new Cell
21 2A/3B may not be needed for VCHEC.

22 **Q29. DOES STAFF HAVE TACTICAL PLANNING SUGGESTIONS?**

1 **A29.** Yes. Considering the 15-year horizon of the CCR projects, along with the potential for
2 ongoing CCR research and entrepreneurial activity aimed at the development of CCR
3 handling solutions that could prove to be more economical and efficient, Staff recommends
4 that the Company consider an array of available technological options for each workstream
5 before awarding significant contracts and include the respective feasibility and cost
6 analyses in future annual Rider CCR filings.¹¹⁴

7 Also, an opportunity to derive benefits from conservation and future use of coal ash
8 may stem from research.¹¹⁵ Consistent with the Company's culture of innovation and
9 subsection E of SB 1355, Staff recommends that the Company evaluate emerging
10 beneficiation solutions on an ongoing basis and include the respective feasibility and cost
11 analyses in annual Rider CCR filings. Staff further recommends that, if a lower cost
12 solution is identified, that the Company maintain the flexibility to make changes to its plans
13 to take advantage of any potential cost savings.

14 **LONG-TERM FINANCIAL PLANNING**

15 **Q30. WHAT IS THE TOTAL ESTIMATED COST OF THE CCR PROJECTS,**
16 **COLLECTIVELY AND AT EACH SITE?**

¹¹⁴ It is noteworthy that the Kentucky Public Utility Commission ("KPUC") ordered a utility company to apply for a certificate of public convenience and necessity for building or closing of coal ash units. Therefore, the KPUC could evaluate the overall costs of closure before costs are incurred. Likewise, Indiana specifically requires utilities to file for a certificate of public convenience and necessity for "federally mandated" environmental costs. (*A Comprehensive Survey of Coal Ash Law and Commercialization: Its Environmental Risks, Disposal Regulation, and Beneficial Use Markets*, National Association of Regulatory Utility Commissioners, January 2020, at 77. https://acaa-usa.org/wp-content/uploads/2021/05/NARUC_CoalAsh_rev_FINAL_061220_RLD_SRB.pdf)

¹¹⁵ "Concerned with a potential decline in the supply of coal ash byproducts as a result of the decline in coal-based electricity generation and closure of CCR units, private and public investment is also supporting research in extracting marketable byproducts from legacy coal ash. While this research continues and while new applications for coal ash become commercially deployable, there is a need for long-term storage of coal ash inventory as opposed to disposal facilities ... Before closure of CCR units, regulatory policy may consider re-examination to find regulatory pathways that incentivize the conservation of coal ash as a commercial resource consistent with RCRA's conservation objectives." (*Id.* at 87).

ATTACHMENT NO. DJD-3

REDACTED

Virginia Electric and Power Company
Case No. PUR-2021-00114
Virginia State Corporation Commission Staff
Seventh Set

The following response to Question No. 53 of the Seventh Set of Interrogatories and Requests for Production of Documents propounded by the Virginia State Corporation Commission Staff and received on October 13, 2021 has been prepared under my supervision.

Wesley A. Hudson
Manager – Electric Market Operations
Virginia Electric and Power Company

Question No. 53:

Please refer to the Company's response to Staff Interrogatory No. 6-45 and Confidential Attachment Staff Set 06-45 (WAH). Provide a narrative explanation of the designation **[BEGIN CONFIDENTIAL]** [REDACTED] **[END CONFIDENTIAL]**

Response:

[BEGIN CONFIDENTIAL INFORMATION] [REDACTED]
[REDACTED] **[END CONFIDENTIAL INFORMATION]**

This response is entirely confidential and is being provided pursuant to the protections set forth in 5 VAC 5-20-170, the Protective Rulings issued in this proceeding on July 16, 2021 and August 16, 2021, any subsequent protective order or ruling that may be issued for confidential or extraordinarily sensitive information in this proceeding, and the Agreements to Adhere executed pursuant to any such orders or rulings.

APPENDIX A

Case No. PUR-2021-00114
Dominion Rider S
CCR Capacity Calculations

Attachment A
Page 1 of 2

Existing Capacity¹

CCR Facility	Total Volume (Cubic Yd.)	Volume in Use (Cubic Yd.) ²	Available Volume
Stage 1A	4,882,652	N/A	N/A
Stage 1B	2,683,319	N/A	N/A
Stage 2B	2,457,147	N/A	N/A
Total:	10,023,118	8,229,714	1,793,404

Notes:

¹ From: Company's response to Staff Interrogatory No. 2-19.

² As of June 14, 2021.

Estimated CCR Material Volumes Produced from Continued Operation³

Year	Volume of CCR Material (Cubic Yd.)	Cumulative Volume of CCR Material (Cubic Yd.)
2021	152,982	152,982
2022	237,282	390,264
2023	230,045	620,309
2024	246,187	866,496
2025	218,783	1,085,279
2026	160,624	1,245,903
2027	156,318	1,402,221
2028	156,170	1,558,391
2029	81,252	1,639,643
2030	70,868	1,710,511
2031	57,728	1,768,239
2032	54,327	1,822,566
2033	56,917	1,879,483
2034	45,754	1,925,237
2035	49,283	1,974,520
Total:	1,974,520	

Notes:

³ From: Company's response to Staff Interrogatory No. 2-25.

Blue-shaded cells represents the final full calendar year in which the existing CCR remediation facilities have sufficient capacity to handle the estimated CCR volumes produced from the operation of VCHEC.

Need for New Capacity, 2032 and Beyond

Cu. Yd.	
CCR	181,116

Case No. PUR-2021-00114
 Dominion Rider S
 CCR Capacity Calculations

Attachment A
 Page 2 of 2

Capacity Under Construction⁴

CCR Facility	Total Volume (Cubic Yd.)
Stage 2A	6,917,800
Stage 3B	7,300,300
Total:	14,218,100

Notes:

⁴ From: Company's response to Staff Interrogatory No. 2-20.

Total Available Capacity, 2022 and Beyond

Stage 1A	4,882,652
Stage 1B	2,683,319
Stage 2B	2,457,147
Stage 2A	6,917,800
Stage 3B	7,300,300
Total:	24,241,218

Available
 Capacity
 Remaining,
 2035 and
 Beyond **14,036,984**